

Method, Service Switching Point, Service Control Point,
Internet Gateway, Program Module, and Internet Terminal
for Establishing a Connection Between a
Telephone-Network Terminal and an Internet Terminal

Patent Claims

1. A method of establishing a connection between a telephone-network terminal (TELA), connected to a telephone network (PSTN) designed as an intelligent network, and an Internet terminal (TERB), connected to the Internet (INT), **characterized by** the following steps:
 - The telephone network (PSTN) receives from the telephone-network terminal (TELA) a request for a connection to a subscriber number assigned to the Internet terminal (TERB);
 - the telephone network (PSTN) routes the connection request to a service switching point (SSP);
 - the service switching point (SSP) determines that the connection request is to be treated as a connection request to an intelligent network;

- the service switching point (SSP) transmits to a service control point (SCP) a service request message requesting a service for handling the request for the connection to the subscriber number assigned to the Internet terminal (TERB);
- the service control point (SCP) determines an Internet address of the Internet terminal (TERB) assigned to the subscriber number;
- the service control point (SCP) transmits to the service switching point (SSP) a service message with the Internet address of the Internet terminal (TERB);
- the service switching point (SSP) establishes a connection through the telephone network (PSTN) to a (first) Internet gateway (GW1) via which the connection between the telephone-network terminal (TELA) and the Internet terminal (TERB) can be established;
- the service switching point (SSP) sends the Internet address of the Internet terminal (TERB) to the (first) Internet gateway (GW1); and
- the Internet gateway (GW1) establishes the link (VB1) of the connection between the telephone-network terminal (TELA) and the Internet terminal (TERB) via the Internet (INT) using the Internet address of the Internet terminal (TERB).

2. A method as claimed in claim 1, characterized in that in addition to the Internet address of the Internet terminal (TERB), the service control point (SCP) determines the address of the (first) Internet gateway (GW1), and that the service control point (SCP) transfers the address of the (first) Internet gateway (GW1) to the service switching point (SSP) for establishing the connection to the Internet gateway (GW1).

3. A method as claimed in claim 1, characterized in that the (first) Internet gateway (GW1) or the Internet

terminal (TERB) transfers the Internet address of the Internet terminal (TERB) to the service control point (SCP) for storage in conjunction with the subscriber number of the Internet terminal (TERB).

4. A method as claimed in claim 1, characterized in that the service control point (SCP) determines the Internet address of the Internet terminal (TERB) from a table in which the address of the Internet terminal (TERB) is associated with a Universal Personal Telecommunications service number.

5. A method as claimed in claim 2, characterized in that the service control point (SCP) determines the address of the (first) Internet gateway (GW1) as a function of a loading of communication paths of the telephone network (PSTN) or as a function of charges incurred on the telephone network (PSTN) for the establishment of the links (VA1, VGW1) of the connection (VA1, VGW1, VB1) between the telephone-network terminal (TELA) and the Internet gateway (GW1).

6. A method as claimed in claim 2, characterized in that the service control point (SCP) determines an address of at least a second Internet gateway (GW2) and transfers the address of the first Internet gateway (GW1) and the address of the at least second Internet gateway (GW2) to the service switching point (SSP).

7. A service switching point (SSP) for establishing a connection between a telephone-network terminal (TELA), connected to a telephone network (PSTN) designed as an intelligent network, and an Internet terminal (TERB), connected to the Internet (INT), the service switching point (SSP) comprising first receiving means (TRSW) designed to enable the service switching point (SSP) to receive from the telephone-network terminal (TELA) a request for a connection to a subscriber number assigned

to the Internet terminal (TERB), **characterized in that** the service switching point (SSP) further comprises recognition means (CPUSW) designed to enable the service switching point (SSP) to recognize that the connection request is to be treated as a connection request to an intelligent network, **in that** the service switching point (SSP) further comprises first sending means (TRSP) designed to enable the service switching point (SSP) to send to a service control point (SCP) a service request message requesting a service for handling the request for the connection to the subscriber number assigned to the Internet terminal (TERB), **in that** the service switching point (SSP) further comprises second receiving means (TRSP) designed to enable the service switching point (SSP) to receive from the service control point (SCP) a service message with the Internet address of the Internet terminal (TERB), **in that** the service switching point (SSP) further comprises call setup means (TRSW) designed to enable the service switching point (SSP) to set up a call through the telephone network (PSTN) to a (first) Internet gateway (GW1) via which the connection between the telephone-network terminal (TELA) and the Internet terminal (TERB) can be established, and **in that** the service switching point (SSP) further comprises second sending means (TRSW) designed to enable the service switching point (SSP) to send the Internet address of the Internet terminal (TERB) to the Internet gateway (GW1).

8/. A service control point (SCP) for establishing a connection between a telephone-network terminal (TELA), connected to a telephone network (PSTN) designed as an intelligent network, and an Internet terminal (TERB), connected to the Internet (INT), **characterized in that** the service control point (SCP) comprises receiving means (TRSC) designed to enable the service control point (SCP) to receive from a service switching point (SSP) a service request message with which the service switching point (SSP) requests a service for handling a request for a

connection to a subscriber number assigned to the Internet terminal (TERB), **in that** the service control point (SCP) further comprises means (CPUSC, MEMSC) designed to enable the service control point (SCP) to determine an Internet address of the Internet terminal (TERB) assigned to the subscriber number, and **in that** the service control point (SCP) further comprises sending means (TRSC) designed to enable the service control point (SCP) to send to the service switching point (SSP) a service message with the Internet address of the Internet terminal (TERB).

9. An Internet gateway (GW1) for establishing a connection between a telephone-network terminal (TELA), connected to a telephone network (PSTN) designed as an intelligent network, and an Internet terminal (TERB), connected to the Internet (INT), the Internet gateway (GW1) comprising call setup means (TRGW) designed to enable the Internet gateway (GW1) to set up a call between the telephone-network terminal (TELA) and the Internet terminal (TERB), **characterized in that** the Internet gateway (GW1) further comprises receiving means (TRGW1) designed to enable the Internet gateway (GW1) to receive an Internet address of an Internet terminal (TERB) from a service switching point (SSP), and that the call setup means (TRGW1) are further designed to enable the Internet gateway (GW1) to set up the connection between the telephone-network terminal (TELA) and the Internet terminal (TERB) using the Internet address of the Internet terminal (TERB).

10. A program module for an Internet terminal (TERB) for establishing a connection between a telephone-network terminal (TELA), connected to a telephone network (PSTN) designed as an intelligent network, and an Internet terminal (TERB), connected to the Internet (INT), the program module comprising program code, which can be executed by a control means of the Internet terminal

(TERB), and detection means designed to enable the program module to determine that the Internet terminal (TERB) is connected to the Internet (INT) within a Internet session and which Internet address is assigned to the Internet terminal (TERB) for this session, **characterized in that** the program module further comprises sending means designed to enable the program module to send a message with the Internet address, together with a subscriber number assigned to the Internet terminal (TERB), to a service control point (SCP) of the telephone network (PSTN), so that the service control point (SCP) of a service switching point (SSP) can send a service message with the Internet address of the Internet terminal (TERB) when the service switching point (SSP) requests a service for handling a request for a connection to the subscriber number assigned to the Internet terminal (TERB).

11. An Internet terminal (TERB), **characterized in that** it comprises memory means (MEMTR) in which a program module as claimed in claim 10 is stored, and **in that** the Internet terminal (TERB) further comprises control means (CPUTR) designed to enable the Internet terminal (TERB) to execute program code of the program module.